

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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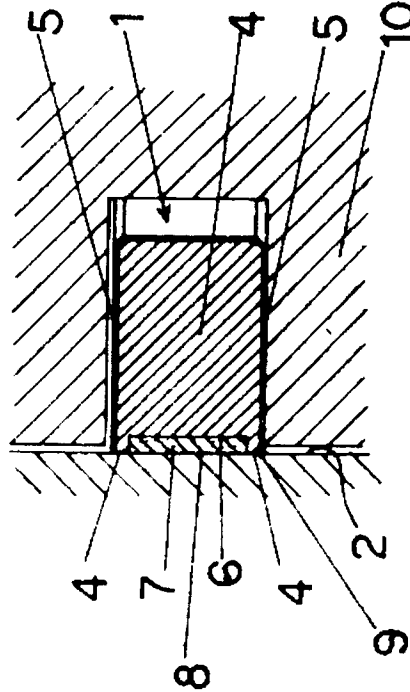
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APPLICANT : RIKEN CORP;

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TITLE : PISTON RING AND ITS  
MANUFACTURING METHOD OF  
INTERNAL COMBUSTION ENGINE



ABSTRACT : PURPOSE: To improve durability and air-tightness of piston ring, by forming a flame sprayed layer with wear- and seizure-resistance in a peripheral groove of an outer circumference of piston ring and chrome plating layer which directly touches the upper and lower sides not through outer slidable surface and round-cornered portion.

CONSTITUTION: A peripheral groove 6 having rectangular cross-section is formed on an outer periphery of piston ring base material 4, and the peripheral groove 6 metal- sprayed with wear-resisting and seizure resisting material such as molybdenum alloy or the like forms an outer slidable surface 8 together with an exposed outer peripheral portion of piston ring base material. A chrome plated layer 5 is formed on the upper and lower sides of piston ring, and directly touches the upper and lower ends of outer periphery of the ring, not through a round-cornered portion so as to form the upper and lower ends 9. The upper and lower sides of the piston ring can thus exhibit sufficient wear-resistance through the existence of the chrome plated layer and the outer slidable surface also can exhibit excellent durability through the existence of metal-sprayed layer with wear- and seizure-resistance.

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